

Detector R&D for an Electron Ion Collider

13th Advisory Committee Meeting
JLab, July 13-14, 2017

Thomas Ullrich (BNL)
July 13, 2017



Electron-Collider Status

- National Academy of Science Review in progress
 - ▶ Two meetings so far: 02/01/2017 and 04/19/2017
 - ▶ March meeting had open session with presentations by various speakers
 - ▶ <https://www8.nationalacademies.org/cp/projectview.aspx?key=49811>
 - ▶ Review seems on track (deadline March 2018)
- DOE full budget proposal for FY 2018
 - ▶ Despite grim situation the high priority EIC in the US is clearly re-iterated in the request
- Next week: EIC User meeting in Trieste
 - ▶ Exciting program
 - ▶ Representatives from funding agencies present: DOE (Tim Hallman), INFN (Italy), France, Poland

FY2017 Funding Period

- 11 Projects are funded in FY17
 - ▶ eRD1 - Calorimeter consortium
 - ▶ eRD2 - Magnetic Cloaking
 - ▶ eRD3 - Fwd Tracking
 - ▶ eRD6 - Tracking consortium
 - ▶ eRD14 - PID consortium
 - ▶ eRD15 - Compton spectrometer
 - ▶ eRD16 - Fwd Silicon tracking
 - ▶ eRD17 - Simulations
 - ▶ eRD18 - Central Si tracking
 - ▶ eRD19 - Machine background
 - ▶ eRD20 - Software/Analysis consortium

FY2018 Funding Period

- So far we are working under the assumption of flat funding for detector R&D funding
- 9 ongoing projects submitted new proposals
- 9 new proposals received
- Total amount requested: \$2.35M implying we are oversubscribed by a factor 2.35

EIC R&D Advisory Committee

Standing Advisory Committee:

Marcel Demarteau* (Argonne)

Carl Haber (LBNL)

Peter Krizan (Ljubljana)

Ian Shipsey (Purdue)

Rick Van Berg (UPenn)

Jerry Va'vra (SLAC)

Glenn Young (JLab)

*chair



Please use coffee breaks for informal discussion with committee members

| | | | |
|---------------------|------------------------------------------------------------------------------|--------------------------------|--------|
| 08:00 | Committee: Breakfast and Executive Session (F224/225) | | |
| F113 (CEBAF Center) | | | |
| | Title | Speaker (Time) | Slides |
| 08:50 | Welcome and Overview | Thomas Ullrich (10) | |
| 09:00 | eRD3 Progress Report and Proposal: Forward tracking | Matt Posik (20+10) | |
| 09:30 | eRD6 Progress Report and Proposal: Tracking consortium | Kondo Gnanvo (30+10) | |
| 10:10 | Coffee Break | | |
| 10:30 | eRD16 Progress Report and Proposal: Fw. Si Tracking | Ernst Sichtermann (20+10) | |
| 11:00 | eRD18 Progress Report and Proposal: Central Si Tracking | Peter Jones (20+10) | |
| 11:30 | New Proposal: Investigate Silicon CMOS | Jessica Metcalfe (15+10) | |
| 11:55 | Lunch Break (Committee working lunch in A110) | | |
| 13:55 | eRD14 Progress Report and Proposal: PID Consortium | Pawel Nadel-Turonski (30+10) | |
| 14:35 | New Proposal: Background studies | Latifa Elouadrhiri (15+10) | |
| 15:00 | New Proposal: Electronics and detectors to determine bunch by bunch beam | Nicola Minafra (15+10) | |
| 15:25 | Coffee Break | | |
| 15:45 | New Proposal: Novel TPC readout system (Si pixel) | Klaus Dehmelt (15+10) [remote] | |
| 16:10 | New Proposal: Triggerless data acquisition system for calorimetry | Andrea Celentano (15+10) | |
| 16:35 | eRD20 Progress Report and Proposal: Developing Simulation and Analysis Tools | Markus Diefenthaler (20+10) | |
| 17:05 | Executive Session (A110) | | |

Friday, July 14, 2017

08:00 Committee: Breakfast and Executive Session (F224/225)

F113 (CEBAF Center)

| | Title | Speaker | Slides |
|--------------|-------------------------------------------------------------------------------------------|-----------------------------------------|---------------|
| 9:00 | eRD17 Progress Report and Proposal: BeAGLE: A Tool to Refine Detector Requirements | Mark Baker (20+10) | |
| 9:30 | eRD15 Progress Report and Proposal: Compton electron detector | Alexandre Camsonne (20+10) | |
| 10:00 | Coffee Break | | |
| 10:20 | eRD1 Progress Report and Proposal: Calorimeter consortium | Oleg Tsai/Tanja Horn (20+10) | |
| 10:50 | New Proposal: Shashlik Electromagnetic Calorimeter | TBD (15+10) | |
| 11:15 | New Proposal: Trigger Primitives from an EIC ECAL | Martin Purschke (15+10) [remote] | |
| 11:40 | New Proposal: GEM based Transition Radiation Tracker | Yulia Furletova (15+10) | |
| 12:05 | Committee Executive Session & Working Lunch (F224/225) | | |
| 13:05 | New Proposal: Small strip Thin Gap Chamber detector | Lijuan Ruan (15+10) | |
| 13:30 | Committee Executive Session (F224/225) | | |
| 16:00 | Close-Out | | |

Many Thanks ...

- **Liz Mogavero** for dealing with the contracts
- **Rachel Nieves** for getting the committee here
- The **EIC R&D Committee** for their enthusiasm and hard work to make the program work, especially to Marcel without whom I wouldn't know how all this would work
- To **Jefferson Lab** for hosting this meeting and their support in preparing the meeting (Rik, Rolf, Bob, Erica Jones)
- To **all participants** for the interest and engagement in the projects and their patience